

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 November 2001 (22.11.2001)

PCT

(10) International Publication Number
WO 01/88043 A3

- (51) International Patent Classification⁷: C09B 67/26, C09D 11/16, C09B 69/00, 69/04
- (21) International Application Number: PCT/US01/10047
- (22) International Filing Date: 28 March 2001 (28.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/571,184 16 May 2000 (16.05.2000) US
- (71) Applicant: **MILLIKEN & COMPANY** [US/US]; 920 Milliken Road, Spartanburg, SC 29303 (US).
- (72) Inventor: **VANDAHM, Richard, A.**; 254 Harrell Drive, Spartanburg, SC 29307 (US).
- (74) Agent: **PARKS, William, S.**; Milliken & Company, P.O. Box 1926, Spartanburg, SC 29304 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
28 February 2002
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 01/88043 A3

(54) Title: WASHABLE COLORING COMPOSITIONS

(57) **Abstract:** Washable coloring compositions comprising mixtures of specific low-molecular weight carboxylic acids and carboxylates are provided. Such mixtures are produced through the partial neutralization of a carboxylic acid by a base to provide a relatively neutral pH mixture comprising some acid and some carboxylate species. Such mixtures provide excellent washability enhancing performance in association with colorants and inks. Also, these specific mixtures exhibit low viscosities which allow for greater amounts of washability enhancing additive and colorant to be added within colorant and ink formulations while simultaneously permitting the retention of sufficiently low overall viscosities of the target compositions. Such mixtures provide highly effective prevention of permanent colorations to certain substrates, such as skin, clothing, and the like, by the inks, dyes, and the like, within the target compositions. Marker styluses, writing implements, and other colorant transfer devices, containing these inventive compositions, are also encompassed within this invention.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/10047

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C09B67/26 C09D11/16 C09B69/00 C09B69/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C09B C09D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 36031 A (BINNEY & SMITH INC) 20 August 1998 (1998-08-20) cited in the application examples ---	1-28
A	US 5 116 410 A (MILLER RICHARD E) 26 May 1992 (1992-05-26) cited in the application claims; examples ---	1-28
A	EP 0 557 115 A (BINNEY & SMITH INC) 25 August 1993 (1993-08-25) cited in the application examples --- -/--	1-28

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

9 November 2001

Date of mailing of the international search report

22/11/2001

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Ketterer, M

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/10047

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	EP 1 111 011 A (ROHM & HAAS) 27 June 2001 (2001-06-27) page 2, line 29 - line 41 ----	1,2,6,7, 15,16, 20,21
X	DATABASE WPI Section Ch, Week 199813 Derwent Publications Ltd., London, GB; Class A97, AN 1998-141197 XP002182423 & JP 10 017814 A (RICOH KK), 20 January 1998 (1998-01-20) abstract ----	1,2,6,7, 15,16, 20,21
X	US 5 587 408 A (BURNS BARBARA J ET AL) 24 December 1996 (1996-12-24) claims ----	1,2,6,7, 15,16, 20,21
X	DE 34 05 270 A (PELIKAN AG) 5 September 1985 (1985-09-05) page 6, line 4 - line 6 ----	1,2,6,7, 15,16, 20,21
X	DATABASE WPI Section Ch, Week 199512 Derwent Publications Ltd., London, GB; Class A14, AN 1995-085632 XP002182424 & JP 07 011180 A (MARUJU KASEI KK), 13 January 1995 (1995-01-13) abstract ----	1,2,6,7, 15,16, 20,21
A	WO 95 11747 A (MINNESOTA MINING & MFG) 4 May 1995 (1995-05-04) examples ----	1,2
A	US 5 043 013 A (KLUGER EDWARD W ET AL) 27 August 1991 (1991-08-27) cited in the application the whole document ----	1,2
A	EP 0 369 599 A (MILLIKEN RES CORP) 23 May 1990 (1990-05-23) examples ----	1,2
A	DD 142 556 A (DESIDERIUS RUDOLF) 2 July 1980 (1980-07-02) page 3, paragraph 4 -page 4, paragraph 1 page 4, paragraph 4 page 6, paragraph 4 ----- -/--	1,2

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/10047

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE WPI Section Ch, Week 198514 Derwent Publications Ltd., London, GB; Class A14, AN 1985-084715 XP002182425 & JP 60 036571 A (DIA CHEMCO KK), 25 February 1985 (1985-02-25) abstract -----	1,2

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claim 1 relates to an extremely large number of possible compositions.

Support within the meaning of PCT Article 6 and/or disclosure within the meaning of PCT Article 5 is to be found, however, for only a very small proportion of the compositions claimed.

Claim 1 defines all compositions comprising any coloring agent as well as any mono-, bi-, tri- and tetravalent carboxylic acid containing at most 22 carbon atoms.

In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely claims 6 and 9, as well as tables I-III and compounds 27,28 as defined in the description (see pages 9-12).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as IPEA is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

Claims searched incomplete: 1-28.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/10047

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9836031	A	20-08-1998	US 5981626 A	09-11-1999
			US 5900094 A	04-05-1999
			AU 729526 B2	01-02-2001
			AU 6276898 A	08-09-1998
			BR 9807546 A	15-02-2000
			CA 2219673 A1	14-08-1998
			EP 0960172 A1	01-12-1999
			JP 2001502752 T	27-02-2001
			US 6040359 A	21-03-2000
			WO 9836031 A1	20-08-1998
US 5116410	A	26-05-1992	AU 5437890 A	05-11-1990
			WO 9012067 A1	18-10-1990
EP 0557115	A	25-08-1993	AU 3318293 A	26-08-1993
			CA 2090057 A1	21-08-1993
			EP 0557115 A1	25-08-1993
EP 1111011	A	27-06-2001	EP 1111011 A2	27-06-2001
			JP 2001200172 A	24-07-2001
JP 10017814	A	20-01-1998	NONE	
US 5587408	A	24-12-1996	NONE	
DE 3405270	A	05-09-1985	DE 3230463 A1	16-02-1984
			DE 3405270 A1	05-09-1985
			AT 16712 T	15-12-1985
			DE 3361342 D1	09-01-1986
			EP 0100834 A1	22-02-1984
			JP 59049276 A	21-03-1984
			US 4596846 A	24-06-1986
JP 7011180	A	13-01-1995	JP 7122040 B	25-12-1995
WO 9511747	A	04-05-1995	US 5411802 A	02-05-1995
			DE 69418052 D1	27-05-1999
			DE 69418052 T2	19-08-1999
			EP 0725677 A1	14-08-1996
			JP 9504324 T	28-04-1997
			WO 9511747 A1	04-05-1995
			US 5597557 A	28-01-1997
US 5043013	A	27-08-1991	NONE	
EP 0369599	A	23-05-1990	US 4871371 A	03-10-1989
			CA 2000563 A1	24-04-1990
			EP 0369599 A1	23-05-1990
			JP 2187471 A	23-07-1990
			JP 2783432 B2	06-08-1998
DD 142556	A	02-07-1980	DD 142556 A5	02-07-1980
JP 60036571	A	25-02-1985	NONE	